ACCUWEIGH

AD-4401

HIGH-PERFORMANCE DIGITAL INDICATOR

The AD-4401 high-performance weighing and batching indicator is ideal for batching, loss-in-weight, check weighing or simple static weighing applications.

by

A&D Weighing

HIGHLIGHTS

- 100 Times/Second High-Speed Sampling
- High Display Resolution to 16,000 Counts
- Up to 1,000,000 Counts of A/D Resolution
- Monitor and Control Weighing and Batching with External or Internal Resolution
- Fuzzy and Automatic Free Fall Compensation (AFFC) for Consistently Accurate Batching Results
- Enter Control Setpoints Through Front Keys or Remotely Through External Thumb-Wheels
- Automatic Weight and/or Count Accumulation
- Sub Display Provides Feedback on All Setpoints and Simplifies Calibration
- Supplementary Flow Function Assures Accurate Performance on Each Batch
- A Host of Communications Capabilities: RS-232C, RS-422/485, BCD, Analog Output and Standard 4-20mA Current Loop
- Connect Up to 10 AD-4401's with RS-422/485
- Compact DIN Size Housing Speeds Installation and Reduces Space
- Digital Span Calibration Enhances Technical Support and Difficult Installations
- Splash-Proof Front Panel and Keys (IP-65).
- High Sensitivity 0.3μV/Division for More Accurate Measurements
- Automatic Batching and Customer Programming Capability
- Bright, Clear Fluorescent Displays
- Hold and Peak Hold Functions
- User Programmed Timer Settings and Alarms Improve Operational Safety and Performance
- Weigh-In and Loss-In-Weight Batching

NETWORK UP TO 10 UNITS

ADDITIONAL FEATURES

SYSTEM SELF-DIAGNOSTICS

The most important factor in the installation of any weighing or controlling system is to assure that all cables, I/O connections and options are set up and working correctly. This can be very time consuming and difficult, adding to the expense of the installation.

The AD-4401 solves this problem by providing System Self-Diagnostics that can check:

- All Installed Options
- All I/O Connections (Without the Need for Test Equipment)
- Setpoint Connections
- Control Keys
- A/D Converter Input Value

CUSTOMER PROGRAMMABLE CONTROL I/O PINS AND "F" FUNCTION KEY

Each batching installation has different control I/O requirements. The AD-4401 adapts to these requirements by allowing the programming of each of its Control I/O pins. The user may assign up to 6 input functions from a selection of 14, including: Zero, Tare, Batch Start, Emergency Stop, Discharge Start, Clear Tare, Accumulation, Hold and others. Up to 8 output functions from a selection of 16 may also be selected, including: Zero Band, Under and Over Limits, Full-Medium-Dribble Flow, Discharge Gate Open, Batch Finish and others.

Additionally, the programmable "F" function key on the front key pad of the AD-4401 may be programmed for special operation, including: Manual Print, Hold, Batch Start, Emergency Stop, Clear to Zero, Clear Tare or Clear Total.

SUPERIOR FREE-FALL CONTROL

The type of material being batched, ambient temperature, flow rate, consistency of the material, and many other factors impact the accuracy of any batching process. The AD-4401 provides two types of free fall compensation which may be selected according to batching conditions. Fuzzy Free Fall Compensation is particularly effective in batching inconsistent material, such as sand with stones; honey, whose flow rate changes according to ambient temperature; and flour, which is susceptible to sticking to the sides of the discharge gate.

HIGH PERFORMANCE A/D CONVERTER

New Sigma Delta A/D converter IC provides high speed, high resolution and high sensitivity in a very small package, that saves space, reduces parts and lowers cost.

EIGHT MODES OF WEIGHING/ BATCHING PROGRAMS

Available for:

- Weigh-in Batching
- Loss-in-Weight Batching
- Check Weighing

SUB-DISPLAY

Tare, Final Weight, Accumulated Weight, Count of Measurements, plus Calibration Settings.

REAR PANEL FEATURES

STANDARD SERIAL OUTPUT:

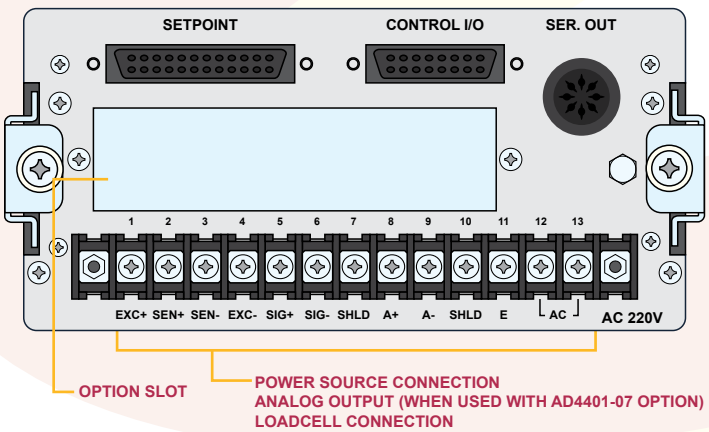
20mA current loop output to A&D's peripheral device

SETPOINT:

Changes settings of each comparison value using a thumbwheel or AD4401-05 Setpoint unit

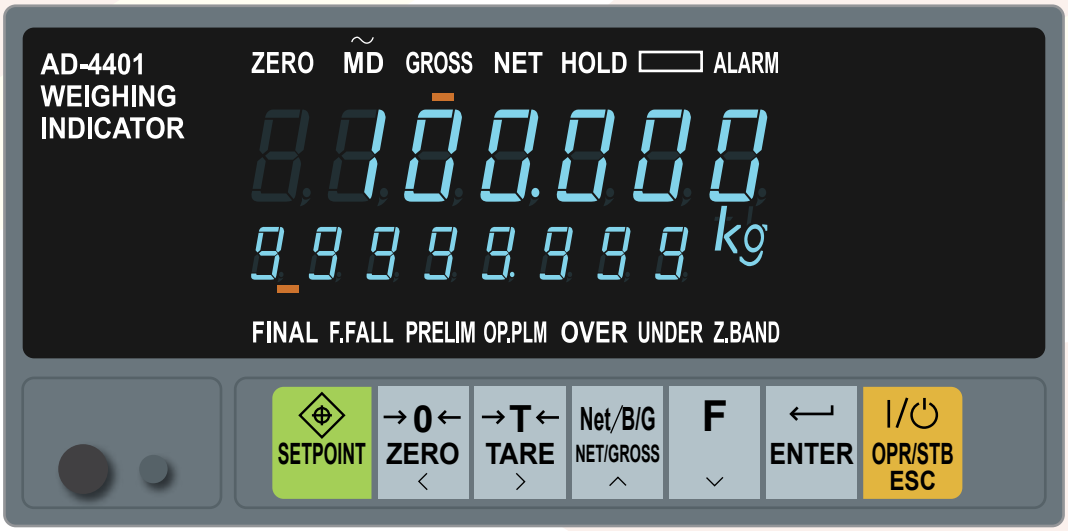
USER DEFINED CONTROL I/O PINS:

Select 6 of 14 control input commands
Select 8 of 16 control output commands

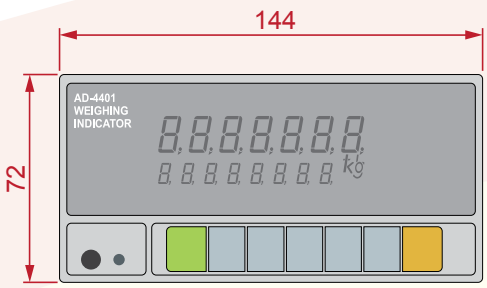

SETPOINT
CONTROL I/O
SER. OUT
1 2 3 4 5 6 7 8 9 10 11 12 13
EXC+ SEN+ SEN- EXC- SIG+ SIG- SHLD A+ A- SHLD E AC
AC 220V
OPTION SLOT
POWER SOURCE CONNECTION
ANALOG OUTPUT (WHEN USED WITH AD4401-07 OPTION)
LOADCELL CONNECTION

SPECIFICATIONS

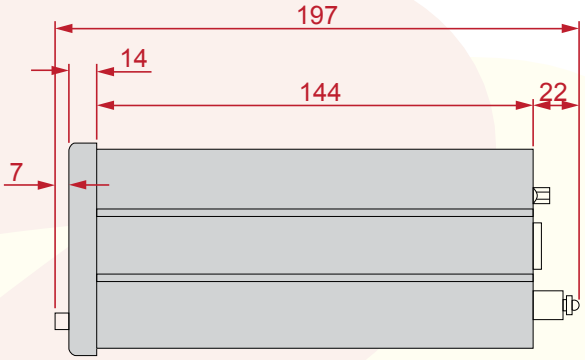
ANALOG & A/D CONVERSION	
Excitation	10V ±5%, 230mA, Remote Sensing, Maximum 8 x 350Ω Loadcells
Input Sensitivity	Minimum of 0.3μV/Division
Operating Modes	Single Range
Zero Adjustment	0mV to 20mV
Non-Linearity	±0.01% of Full Scale or Less
Temperature Co-Efficient	Zero ±(0.2μV+8ppm of Dead Load)/ºC (Typically) Span ±8ppm/ºC of Reading (Typically)
Input Impedance	10MΩ Minimum
Input Noise	±0.3μVp-p or Less
Display Resolution	Up to 16,000 Divisions
Internal Resolution	1,000,000 Internal Counts
A/D Conversion Method	Delta Sigma
A/D Conversion Speed	Approximately 100 Times/Second
DIGITAL	
Main Display	Blue Fluorescent, 7-Segment, 7-Digit, 13mm Characters
Sub Display	Blue Fluorescent, 7-Segment, 8-Digit, 7mm Characters Displays Tare, Final Weight, Accumulated Weight, Count of Measurements
Maximum Display Weight	999,950
Minimum Division	Selectable from 1, 2, 5, 10, 20, or 50
GENERAL	
Power	170VAC ~ 264VAC, 50/60Hz
Operating Temperature	-5°C ~ +40°C
Operating Humidity	Less than 85% Relative Humidity (Non-Condensing)
Net Weight	Approximately 1.3 kg
Dimensions	144mm(W) X 72mm(H) X 197mm(D)
Panel Cutout	138mm +1.0/-0mm(W) x 68mm +0.7/-0mm(H)
Memory Back-Up	Lithium Over Six Years Without AC Power
Under Zero Indication	”-” minus sign
Keys	Setpoint, Zero, Tare, Net/Gross, Enter, OPR/STB, F, CAL
Programmable “F” Keys	Select One from Emergency Stop, Clear to Zero, Clear tare, Clear Total, Manual Print, Hold, Loading Start or No Capability



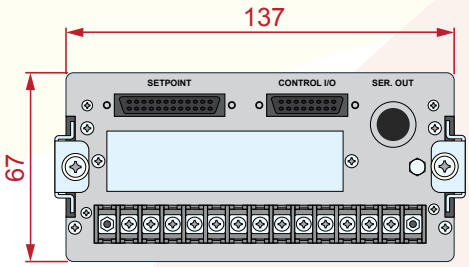
DIMENSIONS



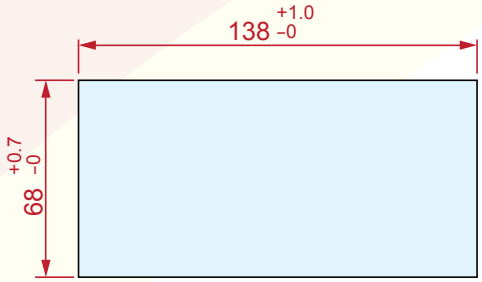
FRONT VIEW



SIDE VIEW



REAR VIEW



PANEL CUT-OUT

OPTIONS

- OP-01 BCD Output (Open Collector)
- OP-03 Serial Interface RS-422/485
- OP-04 Serial Interface RS-232
- OP-05 Setpoint Unit
- OP-07 Analog Output (4-20mA)

ACCESSORIES

- AD8118B Universal Printer
- AD8121B Dot Matrix Printer
- AD8922 External Display
- AD8512 Digital Comparator
- AD8951 Comparator Light

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